

THE  
BOSTON MEDICAL AND SURGICAL JOURNAL.

---

VOL. LXX.

THURSDAY, JUNE 30, 1864.

No. 22.

---

DIAGNOSTIC IMPORTANCE OF EXAMINATIONS OF THE URINE.

AN ADDRESS DELIVERED BEFORE THE MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY,  
AT WALTHAM, APRIL 20, 1864, BY ALFRED HOSMER, M.D., OF WATERTOWN.

[Concluded from page 415.]

THE subject of the second case, a man aged about 40, and a cripple from early life, in consequence, as was alleged, of some indiscretions in connection with scarlet fever, had an attack of hemiplegia Jan. 2d, 1862. The articulation was seriously affected, and the paralysis of the right arm and leg complete. The power of motion was regained by the limbs in a large measure, but the speech always remained imperfect. During the eight months succeeding the original attack, he had, at rather long intervals, four or five fits of an epileptic character, in which he always frothed at the mouth, and sometimes bit his tongue. From these fits he seemed to recover perfectly, and did not appear to suffer any serious or permanent damage therefrom.

Nov. 9th, 1862, I was called to him on account of an attack of severe pain, seated principally at the epigastrium, and radiating from that point to the lumbar region, and unattended by any nausea, vomiting or disturbance of the bowels. In a few hours I found him completely relieved, and was told that he had had a similar, but less severe, attack a short time previously. During the evening of Nov. 13th, he was overtaken by a third attack of abdominal pain, which by many degrees exceeded the first two in violence. Insensibility supervening rather suddenly, I was summoned in the night, and found the patient in a comatose, helpless condition, which terminated in death the following evening. When I saw him November 9th, I was somewhat puzzled, and could not comprehend the condition of things, and as relief was so speedy and so complete, professional attendance was not continued, and I made no farther observations on the case until a few hours before its fatal termination. It then occurred to me that renal disease, if discovered, would remove the

obscurity and uncertainty which invested its last phase, viz., the recurring attacks of excruciating epigastric pain, ending at last in profound insensibility and death. The urine last voided by the patient happened to be saved, and I found it to be loaded with albumen. An autopsy was requested, but refused. But I cannot doubt that the man had renal disease and died of it. How long it had existed it is, of course, impossible to say; it may have been for months. By a forced or false interpretation of the symptoms, I could have said that the case was one of apoplexy, and no one would have contradicted the diagnosis. But it was certainly more creditable to our science and our art that the albuminuria should be recognized, and thereby the pathology of the case more perfectly appreciated.

The subject of the third case was a child, to whom I was called on account of œdema of the scrotum. A cathartic was ordered, with the recumbent position, and within twenty-four hours the swelling had entirely disappeared. I directed the mother to send me a specimen of the child's urine, if she observed any return of the trouble. In a few days the urine was forthcoming, and found to be highly albuminous, with a density of 1013°. I inferred from that a subacute affection of the kidneys, which view of the case was confirmed by the subsequent symptoms, among which I would mention as prominent and significant, extreme general anasarca. The child eventually recovered.

I remember the case of a man who sent for me because he did not fully recover from what he considered an attack of cholera morbus. In the course of my visit it was stated that his face had been swollen and eyelids puffed. Taking a hint from this, I tested the urine, and found albumen, which was the key to the case. During the second week, it disappeared from the urine, and the man's recovery was complete.

In another instance, a man was attacked with nausea and epigastric pain and tenderness, with constitutional symptoms of moderate severity. At first I could hardly give a name to his case; but in two days from the time of my first visit he had a fit, in which he was generally convulsed and bit his tongue. This occurrence excited a suspicion of renal trouble, which was confirmed by the albumen which the urine was found to contain.

I know of a case in which a fatal disease was called gastritis. But from a minute and detailed account which I had of the symptoms, I cannot avoid the belief that if the urine had been examined, which it never was, albumen would have been found, and the true character of the case been disclosed.

A few months since I saw a child in consultation, then ill a week or ten days. In the outset it was seized with convulsions, which were rather violent and prolonged. The symptoms that followed, I need not enumerate. Suffice it to say, that at the time of my visit

they pointed to the nervous centres. We attempted to secure a portion of the urine for examination, but failed. We agreed that we did not know exactly what the child's disease was, gave a prognosis rather unfavorable, and selected the course of treatment suggested by the more urgent symptoms. Within a few days, general anasarca was developed; and the albumen, then discovered in the urine, proved the kidneys to be the seat of the disease, which up to that time had been, to all intents and purposes, latent. The case terminated favorably at last.

In this connection, I will venture upon a little digression with reference to the possible pathology of convulsions in certain cases. We occasionally see infants and young children who are seized with fits, which are repeated several times in the course of twenty-four hours, and recur in the same way for two or more successive days. They cannot be accounted for by dentition, indigestion, the commencement of an inflammatory affection, or the invasion of an eruptive fever. There are none of the ordinary extra-cerebral causes in operation, still the symptoms do not square exactly with a case of diseased brain. Unable to avoid the influence of prejudices and preconceptions, we are apt to be anxious and apprehensive lest there be within the head some disease, existing or impending. Generally, recovery soon dissipates our fears. It is some time since I asked myself the question, whether in these cases the convulsions might not originate in renal disease, and whether the urine, if it could be examined, would not be found to be albuminous. I throw out a suggestion for your consideration by stating simply an impression; the scanty facts in my possession would hardly warrant the public expression of a positive, unqualified opinion.

But to return: is the significance of albuminous urine absolute and invariable? It is not. In a certain number of cases, albuminous urine, considered relatively to the circumstances and conditions which attend it, indicates or rather proves the existence of renal disease. Although the cases, so called, of albuminuria derive the designation from the condition of the urine, on account of the very close and obvious connection between this condition and the essential disease, we must not allow ourselves to be misled by the term, and forget that the albumen in the urine is only a symptom, though a very significant one. There are many instances in which albumen, in considerable quantity, is found in the urine, as in cases of puerperal convulsions and scarlatinal dropsy, and in which it stands simply as a co-ordinate fact along side of other symptoms, having no more intimate relation with them than that of common causation, and finding its cause and explanation in some alteration in the composition of the blood, and certainly not dependent upon any disease of the kidney. Although in the class of cases just referred to, the known presence of albumen in the urine does not facilitate diagnosis in the same sense and to the same degree as

when it is associated with Bright's disease, acute or chronic, still the knowledge of it is important as enabling us to understand more completely than we otherwise should the cases in which it is found, and which it is well always to bear in remembrance, lest we hastily give to the symptoms under consideration an interpretation which subsequent observation may contradict.

Microscopic examination of the urine, by the discovery of casts of the tubuli uriniferi, and epithelial cylinders resulting from rapid and extensive desquamation within the tubuli, furnishes satisfactory evidence, or rather an ocular demonstration, of an existing renal affection. The propriety of such investigation cannot be questioned; but we cannot regard it as absolutely essential to the diagnosis of the diseases of the kidney, as we should the application of chemical tests to the urine. For I am not aware that it will furnish any results which, in the present state of science, could not have been anticipated and expected from less difficult and more available means of observation.

In addition to the reasons already assigned for dwelling thus at length upon the subject of albuminous urine, I will name one more, which is, that albumen in the urine points to the kidneys to the entire exclusion of all other portions of the urinary apparatus; in this respect there is nothing equivocal about it, as with other abnormal urinary ingredients—pus and blood, for instance. Of these it may be briefly said that we can scarcely conceive of the possibility of overlooking them, as they impart to the urine such altered physical qualities as to early arrest the attention of the patient or his attendants; that they belong to a state of things in a high degree abnormal; that they call for a careful and serious consideration of their pathological relations and indications; that although they cannot of and by themselves alone enable us to determine with precision the locality of disease, because they may be associated not only with affections in various portions of the urinary apparatus, but with lesions which are entirely external to it, still they may in a certain number of cases greatly elucidate and facilitate diagnosis, by indicating to a certain extent the kind of disease present. Their origin, however, is often a difficult question, which is to be solved by other symptoms.

The meaning of mucus, when found in the urine in notable proportion, can hardly be ambiguous; its necessary origin from an extensive mucous surface, can point to nothing but the lining membrane of the bladder as being in an abnormal condition.

Saccharine diabetes, though as far as possible from being a renal affection, is attended by a peculiar condition of the urine, glucosuria being the essential and characteristic symptom of this disease. If an average case of diabetes presented itself, a practitioner of fair sagacity and experience could hardly fail to recognize the true character of the morbid action going on, and thence infer the co-existing and consequent glucosuria without submitting the question to actual



experiment; yet even in this case a careful examination of the urine is not unnecessary or superfluous; it is demanded by the claims of scientific accuracy and the requirements of rigid, exact diagnosis. Moral certainty lacks very much of being equivalent to experimental proof, and when the latter is available it should most assuredly be resorted to. It is essential, then, in all cases in which the question of glucosuria can arise, to decide it definitely, and in a manner that removes all doubt. But it is no more important to detect the sugar in the urine in cases of genuine diabetes, than it is to prove its non-existence in connection with certain symptoms commonly associated with that disease, for here lies the greater liability to positive error. The use of chemical reagents omitted, I think one would be less likely to misapprehend and miscall a true case of diabetes, than one in which diuresis was a conspicuous symptom. It is certainly not uncommon in practice, apart from cases purely hysterical, to find instances of excessive urination, which have not the least affinity with the disease under consideration. To these may be added the rare, but, if reports are credible, possible examples of polydipsia.\* Hence in these cases the necessity of that complete observation which includes a knowledge of the chemical reactions and physical properties of the urine.

Spermatorrhœa is another disease in which a careful examination of the urine, by the microscope of course, is essential to positive, unerring diagnosis. Authorities assert that sometimes the spermatic fluid takes a retrograde course into the bladder, and thence is voided mixed with the urine; and the only sure mode of ascertaining the existence of semen is the detection of spermatozoa by microscopic examination of the fluid. In a contrary sense, this examination is required to enable us to fully relieve the fears and apprehensions of certain patients, such as have consulted me from time to time, always young men, who have discovered that a portion of their urine is milky, even some of it almost semi-solid, from the abundance of colorless urate of ammonia or phosphate of lime present, and who are speedily convinced that there is a constant and involuntary emission of seminal fluid, and thence forbode results the most disastrous.

The absolute quantity of urine voided by a patient may sometimes furnish indications of great importance to diagnosis—for instance, when it is a question between a serious organic cerebral lesion, and hysteria. I shall take the liberty of illustrating this by adducing a case related to me by a prominent member of this Society. Without specifying symptoms, it is sufficient to state that they were unequivocally referable to the nervous system. By one physician, whose ability and sagacity we all admire, the case was at first pronounced hysteria without any hesitation; but the gentleman whom I quote took a different view of the case, and, as the result showed,

---

\* Vide Boston Medical and Surgical Journal, vol. xlix., No. 20, p. 393.

correctly diagnosticated something more serious than hysteria. He told me that in making up his mind, he was largely influenced by the fact that he was satisfied that the urine, although its amount was determined with some inconvenience and difficulty, because it was passed involuntarily, not only was not in hysterical excess, but on the contrary was rather scanty.

It may not be amiss to make a passing allusion to certain essential ingredients of the urine, organic and saline compounds having definite chemical compositions and relations, of which some are always held in perfect solution, some always exist as a visible, appreciable deposit or sediment, while others are sometimes dissolved, sometimes precipitated, according to certain variable conditions. In this class are included urea, uric acid and its salts, the combinations of chlorine, and the phosphates; this enumeration, though not complete, being exact enough for ordinary practical purposes. The significance of an unusual proportion of any of these substances in the urine, we all understand perfectly well. In a general sense it cannot be said that any one of them results from a morbid condition that can only through and by itself be indicated and recognized with absolute certainty, as in albuminuria and glucosuria. Commonly, then, these elements, in their deviations from the natural standard, possess no especial diagnostic value. Yet, sometimes, to be aware of these deviations is probably to comprehend more fully and more exactly certain general pathological conditions. It is scarcely necessary to cite instances in illustration. In connection with this part of our subject, some of you may have seen it stated recently in print,\* that complete absence of the chlorides from the urine is a "pathognomonic diagnostic sign of typhoid fever," as distinguished from other varieties of fever. It cannot be pathognomonic, for the same condition obtains in pneumonia, during the stage of hepatization,† and also, if I mistake not, in typhus fever. We should indeed be fortunate to discover so simple a method of settling a question often difficult, and distinguishing with certainty between typhoid fever and cerebral disease on the one hand, and on the other that form of simple continued fever which we annually see, and which almost seems to be taking the place of the typhoid affection. As to the value of this asserted diagnostic sign, I can affirm nothing, but should be inclined to think it was a premature conclusion drawn from insufficient premises.

The reaction of the urine, as acid or alkaline, is of little or no importance in connection with our present subject. The density of the urine, of itself alone, can furnish no conclusive, final diagnostic indications. When considered in connection with the element of quantity, it may suggest certain possibilities or probabilities

\* Boston Medical and Surgical Journal, vol. lxxix., No. 19, p. 378.

† Todd. Acute Diseases. Ed. 1860, p. 253.

to be tested by farther examination. Without styling it a superfluity, we will only say that in most cases we can save ourselves the trouble of observing it, and make a sure diagnosis without it.

The examinations of the urine which we advocate and urge in the observation of disease, are of extreme simplicity, and made with remarkable facility, being for the most part simply qualitative. Though the whole chemistry of this secretion, in health and disease, may not be among the attainments of any of us, on account of its somewhat complicated and intricate nature, it is a fortunate fact that the knowledge necessary for the purposes of clinical observation is inconsiderable in amount, simple in its character, and most easily acquired.

There is a most satisfactory certainty about the results of these examinations: they return to our interrogations a most unmistakable yes or no, that cannot be misapprehended. In the ordinary examinations of the thorax, percussion may give a sound that is doubtfully, but not certainly, dull; by auscultation we may hear a sound we suspect, without knowing surely, to be morbid. Then, again, skill in this particular department of observation, to say nothing of a special natural aptitude, comes of a large practice and a long experience. On the other hand, the veriest tyro in medical chemistry can see and say truly whether or not heat and nitric acid produce an albuminous precipitate in urine; whether or not the peculiar and characteristic color of the suboxide of copper appears, when a certain combination of reagents is applied. Still more in recommendation of these examinations, it may be said, that while their positive results have an unquestionable significance, their negative results have sometimes an absolute value, at others something very nearly approaching it. The absence of sugar from the urine proves the non-existence of diabetes; the absence of albumen makes it in the highest degree probable that there is no structural disease of the kidneys.

It may, then, be considered an imperative duty to examine the urine in all doubtful cases, and in all cases in which a satisfactory diagnosis cannot be made out without it. If the result be negative, as it often will, we have only to remember that diagnosis by exclusion is not a new expression, and that it is no less important to know the negatives than to comprehend the positive of a case.

In conclusion, in setting forth, even thus imperfectly, the necessity of examinations of the urine, I am only urging the claims of a most important subject of which this forms a part. No simple pathological theory is tenable which asserts the unity of disease. We are bound to discriminate and make due distinctions between its various similar and dissimilar forms, and to deliberately determine the nosological position and relations of each case. In the interpretation of symptoms, we should not suffer ourselves to adopt those unmeaning and insignificant phrases, of ancient origin, which tradition has re-

peated to each generation, and handed down to be used by the unlucky victims of mental indolence and lack of scientific curiosity; but we should always strive to insist upon a reasonable and philosophical exposition of causes. And as a means to the attainment of this end, we must with the strictest fidelity discharge the physician's primary duty of vigilant, scrutinizing, intelligent observation.

---

INFLUENCE OF PHYSICAL AND CHEMICAL AGENTS UPON BLOOD;  
WITH SPECIAL REFERENCE TO THE MUTUAL ACTION OF  
THE BLOOD AND THE RESPIRATORY GASES.

BY GEORGE HARLEY, M.D., PROFESSOR OF MEDICAL JURISPRUDENCE IN UNIVERSITY  
COLLEGE, LOND. COMMUNICATED BY DR. SHARPEY, SEC. ROYAL SOCIETY.

(*Abstract.*)

THIS communication is divided into two parts. The first is devoted to the investigation of the influence of certain physical agencies, viz., simple diffusion, motion, and temperature, and of the conditions of time and the age of the blood itself. The second part includes the consideration of the influence of chemical agents, especially such as are usually regarded as powerful poisons.

The paper commences with a description of the apparatus employed, and the method followed in conducting the inquiry; and the details of the several experiments are then given. The following is a brief statement of the results.

PART I.

1. The experiments on diffusion showed that venous blood not only yields a much greater amount of carbonic acid than arterial blood, but also absorbs and combines with a larger proportion of oxygen.

2. Motion of the blood was found to increase the chemical changes arising from the mutual action of the blood and the respiratory gases.

3. The results of the experiment on the influence of time led to the conclusion that the blood and air act reciprocally on each other in the same way out of the body as they do within it, and that their action is not instantaneous, but gradual.

4. It was ascertained that a certain degree of heat was absolutely essential to the chemical transformations and decompositions upon which the interchange of the respiratory gases depends. The higher the temperature up to that of 38° C. (the animal heat), the more rapid and more effectual were the respiratory changes; whereas a temperature of 0° C. was found totally to arrest them.

5. The influence of age on the blood was found to be very marked, especially on its relation to oxygen. The older and the more putrid the blood becomes, the greater is the amount of oxygen that disappears from the air; and although at the same time the exhalation

of carbonic acid progressively increases with the age of the blood, yet its proportion is exceedingly small when compared with the large amount of oxygen absorbed.

6. The average amount of urea in fresh sheep's blood was ascertained to be 0.559 per cent., and its disappearance from the blood during the putrefactive process was very gradual, there being as much as 0.387 per cent. in blood after it was 304 hours old.

## PART II.

The chemical agents employed were animal and vegetable products and mineral substances.

1. The effect of snake-poison was found to be an acceleration of the transformations and decompositions occurring in blood, upon which the absorption of oxygen and the exhalation of carbonic acid depend.

2. The presence of an abnormal amount of uric acid in blood was also found to hasten the chemical changes upon which the absorption of oxygen and the exhalation of carbonic acid depend.

3. Animal serum, contrary to what had been anticipated, retarded the respiratory changes produced in atmospheric air by blood.

4. The influence of hydrocyanic acid was studied both upon ox-blood and human blood, and found to be the same in each case, namely, to arrest respiratory changes.

5. Nicotine was also found to diminish the power of the blood either to take up oxygen or give off carbonic acid gas and thereby become fitted for the purposes of nutrition.

6. The effect of woorara poison, both on the blood in the body and out of it, was ascertained to be in some respects similar to that of snake-poison, namely, to increase the chemical decompositions and transformations upon which the exhalation of carbonic acid depends; but differed in retarding, instead of hastening, the oxidation of the constituents of the blood.

7. Antiar poison and aconite were found to act alike, inasmuch as both of them hastened oxidation and retarded the changes upon which the exhalation of carbonic acid depends; in both respects offering a striking contrast to woorara poison, which, as has just been said, diminishes oxidation and increases the exhalation of carbonic acid.

8. The effect of strychnine on the blood, both in and out of the body, was studied, and found to be in both cases identical, namely, like some of the other substances previously mentioned, to arrest respiratory changes. Moreover, in one experiment in which the air expired from the lungs of an animal dying from the effects of the poison was examined, it was ascertained that the arrest in the interchange of the gases took place before the animal was dead.

9. Brucine acts in a similar manner as strychnine, but in a much less marked degree.

10. Quinine also possesses the power of retarding oxidation of the blood, as well as the elimination of carbonic acid gas.

11. Morphine has a more powerful effect in diminishing the exhalation of carbonic acid gas, as well as the chemical changes upon which the absorption of oxygen by blood depends.

Under this head the effects of anæsthetics upon blood are next detailed; and in the first place, the visible effects of chloroform upon blood are thus described:—If 5 or more per cent. of chloroform be added to blood, and the mixture be agitated with air, it rapidly assumes a brilliant scarlet hue, which is much brighter than the normal arterial tint, and is, besides, much more permanent. When the mixture is left in repose, it gradually solidifies into a red-paint-like mass, which, when examined under the microscope, is frequently found to contain numerous prismatic crystals of an organic nature. If the blood of an animal poisoned from the inhalation of chloroform be employed in this experiment, the paint-like mass will be found to be composed in greater part of the crystals just spoken of; the crystals in this case being both larger and finer than when healthy blood is employed. Chloroform only partially destroys the blood-corpuscles. Its chemical action is to diminish the power of the constituents of the blood to mix with oxygen and give off carbonic acid.

The action of sulphuric ether upon blood differs in many respects from that of chloroform. In the first place, ether has a powerful effect in destroying the blood-corpuscles, dissolving the cell-walls and setting the contents free. In the second place, ether prevents the blood from assuming an arterial tint when agitated with air. The higher the percentage of the agent, the more marked the effect. In the third place, ether neither diminishes the absorption of oxygen nor the exhalation of carbonic acid by blood; and lastly, it has a much more powerful effect in causing the constituents of the blood to crystallize. For example, if an equal part of ether be added to the blood of a dog poisoned by the inhalation of chloroform, as the ether evaporates groups of large needle-shaped crystals are formed. Under the microscope, the crystals are found to be of a red color and prismatic shape.

Alcohol acts upon blood somewhat like chloroform; it arrests the chemical changes, but in a less marked degree.

Amylene was found to act like ether upon blood, in so far as it did not diminish the absorption of oxygen or retard the elimination of carbonic acid. It differed, however, from ether in not destroying the blood-corpuscles.

In the last place, the action of mineral substances is stated, viz.:—

1. Corrosive sublimate was found to increase the chemical changes which develop carbonic acid, and to have scarcely any effect on those depending upon oxidation; its influence, if any, is rather to diminish them than otherwise.

2. Arsenic seems to retard both the oxidation of the constituents of the blood and the exhalation of carbonic acid.

3. Tartrate of antimony increases the exhalation of carbonic acid gas, while at the same time it diminishes the absorption of oxygen.

4. Sulphate of zinc and sulphate of copper both act like tartrate of antimony, but not nearly so powerfully.

Lastly, phosphoric acid was found to have the effect of increasing the chemical transformations and decompositions upon which the exhalation of carbonic acid depends.—*Proceedings of the Royal Society*, March 10th, 1864.

---

### Reports of Medical Societies.

---

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. BY FRANCIS MINOT, M.D., SECRETARY.

APRIL 11th.—*Movable Kidney*.—Dr. ABBOT said he had been consulted by a lady from a distant part of the State on account of a tumor of doubtful character which had given her much anxiety, and for which she had been subjected to various medical treatment for the past two years. The tumor was situated in the abdominal cavity, and easily slipped away from under the hand on pressure. On examination, it presented all the characters of movable kidney. While the patient was recumbent on the back, it could be obscurely felt just beneath the liver and in close contact with it. The patient herself said it could not be felt in this position, but it was distinctly made out. When the patient turned on her left side, it fell down from this position and could be very readily grasped through the abdominal parietes. When allowed to take its own place, it came to the median line, and could be very distinctly felt resting in front of the bodies of the vertebræ. It was an oval body, of the size of a normal kidney. The patient could not say that it had given her any special suffering other than the anxiety which it had caused from the first, and some obscure uneasiness and sense of weight at times. The tumor had been regarded by a respectable physician as connected with the liver, and she had taken medicine from him to "backen" it. Indeed, she had been under treatment more or less since it was first discovered, and she had consulted several medical gentlemen about it. Of course, the diagnosis and the advice to do nothing gave her great relief. In another case, which had been under Dr. ABBOT's notice for several years, the same relief followed the diagnosis and the same advice. In the latter case the patient complained much of a sinking sensation and a dull pain in the tumor. It had been a cause of constant and great anxiety from the time of its discovery. Since learning its probable nature she had ceased to worry about it, and had experienced very little annoyance from it. After great fatigue from work or long standing or walking, there was some feeling of dragging or pressure downwards in the neighborhood of the tumor, but nothing more. It seems probable that the constant dwelling of the mind upon it at first had led to the development of an unusual sensitiveness in the part.



In this case, as in the one first mentioned, the tumor was discovered by the patient herself while in bed, and at once excited great alarm. Both of the patients were females who had borne children, and in both the tumor was on the right side. Dr. Abbot said he had seen at least six of these cases in his own and other gentlemen's practice, and, so far as he could recollect, all of them were females and in all the movable kidney was on the right side. In one instance it could be pushed down nearly into the cavity of the pelvis, and could be easily made to ride up in front of and nearly across the spinal column. These cases are mainly important as a matter of diagnosis, and in this respect they are *very* important; as, when misunderstood, as in the first instance reported, they give rise to much needless anxiety and unnecessary treatment.

MAY 23d.—*Case of Rabies.*—Dr. TOWNSEND said he had seen a case of rabies, in consultation with Dr. Faulkner, of Jamaica Plain, and read the following description of it, which was sent to him by Dr. F.

"A. C. H., a vigorous boy of 5½ years, son of a farmer in Brookline, was bitten by a Newfoundland dog, April 6th, 1864. There was a deep wound, two inches long, in the right cheek, a deep punctured wound in the left cheek, and both lids of the left eye were badly lacerated. Caustic was not applied, for it seemed inexpedient to use it for such wounds. The wounds healed in due time, after free suppuration. The boy was as well as usual till thirty days after the bite.

"Friday, May 6th, was very hot for the season. The boy had been at school in the morning, and was at play through the day. At supper he ate very hearty, drank milk freely, and became so sleepy at the table that he could hardly get to bed. He fell asleep; but, in a short time, waked with crying and restlessness, and could not tell what he wanted. This state continued, and he slept no more that night. By midnight, some 'twitchings' were observed. At daylight, spasms appeared on his attempting to drink, which he did in a very agitated way.

"At 9 o'clock, A.M., I found him dressed, sitting in his mother's lap, in the parlor. I passed nearly an hour with him. His pulse was very quick, and occasionally there was twitching of one forefinger, but otherwise he seemed much as usual at my former visits. Nothing was offered him, as he was then very quiet. He slept some hours in the forenoon, and was very silent all the day. He slept that night (Saturday) till midnight, but then became very restless and never slept afterwards.

"At 5, A.M., Sunday, he had a most violent spasm, convulsing his whole body, and beginning by the seizing of his throat with both his hands. Immediately after this, he complained of extreme cold. He said his breath was cold, and everything was cold. He could not let his mother come near him, 'her breath was so cold.' A fire-board was removed for ventilation, but he jumped off the bed to replace it, saying the cold of the chimney would kill him. He was reticent, and had a peculiarly sad and suspicious look. But this sense of cold was gone in six or eight hours, and did not recur.

"His silence, too, disappeared about the same time, and he talked incessantly as long as he lived. His language and his ideas were now very unusual, and much beyond his years. His saliva was disordered and viscid, and at times a whitish mass of it could be seen

upon the tongue. In speaking, the movements of the mouth were agitated and spasmodic. He died, conscious, at 3 o'clock, A.M., Monday, about 54 hours after the ushering in of the disease.

"During the last day, he endured all kinds of tortures—he was burning up in the fire, he was drowning in the river, and the like. During this period he wanted drink very much, and was able, by using a teaspoon, to get down considerable; but each attempt to take it produced a convulsive action of the throat, and frequently of the whole frame, so that not more than one teaspoonful in four was really swallowed. He took some food, and, but three hours before his death, eat milk toast. He at no time exhibited any peculiar dread of water. The large cicatrix on the cheek looked redder than it had done, but no other change was seen in the wounds.

"The treatment consisted in a cathartic (senna), which had effect; morphine, freely, which seemed to lessen the tendency to spasm, and veratrine ointment to the spine. Chloroform was early tried, but availed nothing. Whiskey was given, and it was thought with some benefit.

"Dr. S. D. Townsend saw the patient in consultation, and also Dr. Windship.

"Of the condition and fate of the dog, nothing is known with certainty."

Dr. Townsend remarked that, of the three cases on the records of the Massachusetts General Hospital, the first, a female aged 7 years, bitten one month before the attack, lived two days; the second, a male aged 31, bitten five months before, lived four days; the third, a male aged 3½ years, bitten thirty-seven days previous to attack, lived six days.

---

### Bibliographical Notices.

---

*The Pathology and Treatment of Venereal Diseases: including the Results of Recent Investigations upon the Subject.* By FREEMAN J. BUMSTEAD, M.D., Lecturer on Venereal Diseases at the College of Physicians and Surgeons, New York; late Surgeon to St. Luke's Hospital; Surgeon to the New York Eye and Ear Infirmary. A new and revised Edition. With Illustrations. Philadelphia: Blanchard and Lea. 1864.

IN no department of medicine has there ever been such an entire revolution as during the last few years in the opinions entertained in relation to syphilis, or one which has so little attracted a proper degree of attention among physicians in this country. We do not allude to the change of views as to the transmissibility of the so-called secondary forms, or the possibility of conveying the disease by the blood of the infected person in the process of vaccination, for these are facts which have been demonstrated here as well as elsewhere, but to the results of modern investigations made by European authorities, whose names even are not generally familiar to the profession in America. Three years ago Dr. Bumstead published the first edition of his work on venereal diseases, which embodied the results of these

investigations ; but although it was acknowledged at once and everywhere to be a masterly treatise, it failed to produce that universal change in the opinions of the profession which might have been expected. This was owing to no fault in the book, however, but to the fact that it was not enough read by physicians. It is on this account that the old terms "hard," "soft" and "infecting" chancre are still almost universally employed by the profession, and that patients are unnecessarily submitted to a course of constitutional treatment because practitioners have not yet learned to distinguish between a simple local disease and syphilis. We trust that the present edition will be read by physicians as well as students, and the following extract from the Preface will show how much there is for them to *unlearn* as well as to learn.

"The most noticeable change in the present edition will be found in the division of the work. From a certain deference to the opinions at that time generally received, the chancreoid and its complications were, in the first edition, discussed in connection with syphilis. They have now been assigned, as is their due, to separate portions of the work. This change has necessitated a complete reconstruction of the second part of the first edition, and its division into two—a change which, it is hoped, will impress still more strongly upon the mind of the student the distinct nature of the two diseases referred to. The same object has been had in view in abandoning the terms 'soft,' 'hard,' 'simple,' and 'infecting chancre,' and in applying, in accordance with logical accuracy, the term *chancre* exclusively to the initial lesion of syphilis, and that of *chancreoid* to the contagious ulcer of the genitals. The practical portion of the work has also undergone important alterations on various topics, among which may be mentioned the treatment of stricture by the 'immediate plan' of Mr. Holt; the abandonment of specific remedies in most cases of the initial lesion of syphilis; the preference given to the external rather than the internal use of mercury in secondary and tertiary syphilis; and the necessity of trusting to nature, aided by hygienic influences, and not to treatment indefinitely prolonged after the disappearance of all syphilitic manifestations, to eliminate the virus from the system. Numerous emendations and additions of a minor character have been made; every portion of the work has been carefully revised; a number of chapters have been re-written; several new illustrations have been added; and no effort has been spared to render the present edition a complete treatise upon the subject of Venereal, thoroughly on a level with the most advanced state of our knowledge."

Dr. Bumstead has fully succeeded in his undertaking, and we know of no treatise in any language which is its equal in point of completeness and practical simplicity. We wish, however, that the author had cast himself entirely loose from the prejudices which have led him to connect the term "chancre" with syphilis, for we believe that far less confusion would arise were its meaning restricted to the local ulcer alone in place of the word "chancreoid," inasmuch as the initial lesion of syphilis in no way corresponds to the usual acceptation of the former. It is merely a matter of words, however, for the author's views entirely coincide with those of the modern German school, which separates chancre as completely from syphilis as gonorrhœa.

We cannot refrain from reproducing, in this connection, the concise

exposition of these views by Prof. Zeissl, of Vienna, which we published at length two years ago, and which we trust will prompt our readers to recognize the importance of learning more of this and other matters, which Dr. Bumstead has treated in so interesting and thorough a manner.

"From what has been stated, then, it may be seen that we do not recognize a double chancre virus, nor, accordingly, two chancre ulcers essentially distinct from each other. We know only chancres with greater or less capability of destruction, and with smaller or larger amount of diphtheritic exudation. All chancres produce one and the same virus. The pus of a chancre causes local disturbances only, and when re-absorbed merely excites in the nearest lying lymph-glands an inflammatory or suppurative process. Constitutional syphilis, however, is never produced by the absorption of pus from a chancre, unless at the same time syphilitic blood or some syphilitic secretion is mixed with it.

"We recognize, farther, no hard chancre, but only syphilitic indurations of the tissues upon which chancres are accustomed to be seated. Where this combination does not take place, the base and surrounding portion of a chancre remain always soft, and can at most, after long standing, undergo a *similar* sclerosis in their vicinity to that which we are accustomed to find in other ulcers, those, namely, of a scrofulous and varicose nature upon the feet, but never that peculiar cartilaginous hardness, such as occurs in the specific Hunterian induration of the tissues.

"A Hunterian induration, bearing upon its surface a chancre, is the result of a double infection, or of the reception of two poisons—the chancre virus and the syphilitic virus; both of which poisons may, as is most frequently the case, be taken up simultaneously at the same coitus, or one after the other. Both go on generating themselves in their own way; chancre poison reproduces chancre poison, and syphilitic contagion engenders, in turn, a blood impregnated with syphilitic contagion.

"We recognize, accordingly, no chancre syphilis, no primary and secondary syphilis. The Hunterian induration may, perhaps, be looked upon as the first development of syphilis, but not, however, in the sense of the earlier teachers as a primary symptom, the virus of which is by absorption converted into the so-called secondary syphilitic virus.

"All questions and observations which have been raised concerning the inoculability of the so-called hard chancre are to us of easy answer, for as there is no hard chancre, inoculation from the same is out of the question. That which is taken from a so-called hard chancre is always the secretion of a chancre situated upon a borrowed, indurated base, and is just as inoculable as the secretion of the same ulcers seated upon normal tissue.

"If we have the induration alone, then, in case it suppurates, its purulent secretion or blood, if transferred to another non-syphilitic person, will certainly reproduce induration and syphilis, whereas upon the possessor of the induration, or upon another already affected with syphilis, inoculation is without effect. If, however, we inoculate a healthy individual, susceptible to both contagions, with matter from a chancre seated upon an induration, we can produce

upon him two diseases by a single insertion—viz., chancre and syphilitic induration: while upon an already syphilitic person the effect of the chancre poison only is developed, so that from the same source we cause to exist upon the former a so-called hard chancre (Clerc), and upon the latter, the syphilitic, simply a soft ulcer.

"We can accordingly speak of chancre syphilis only when we mean to express that syphilitic virus is mingled with the chancre virus, and in this sense it follows that we are obliged to speak also of a gonorrhœa syphilis, because syphilis can in the same way mingle itself with gonorrhœal secretion and form in the urethra a point of infection. Since this, however, would lead to endless confusion, it is necessary to entirely separate chancre as well as gonorrhœa from syphilis. Chancre as well as gonorrhœa may occur upon the same person in juxtaposition with syphilis, and in this way indeed be the mediate cause of syphilis. Chancre and gonorrhœa contagion can occasion syphilis only in the same way as vaccination, which is an entirely heterogeneous matter, produces syphilis, when the vaccine lymph is mingled with syphilitic blood.

"If, then, we divide venereal diseases into groups, we have three, viz.:—1. Gonorrhœa. 2. Chancre. 3. Syphilis.

"All three of these groups of disease arise from contagions, which are essentially different from each other. The gonorrhœal and chancre contagions display their activity in a few hours or days, whereas the syphilitic poison exhibits its first perceptible manifestation only after three or four weeks; that is, it has a period of incubation, or latency, analogous to the poison of rabies canina.

"The first local morbid alterations which are produced by syphilitic infection always show themselves at the point where the virus has entered, and, in case the imbibition has taken place without the intermixture of chancre poison, there arises, at the end of three or four weeks, upon the infected spot, a smaller or larger nodule, which gradually exfoliates and runs the course already described. The well-known indolent swelling of the glands, which accompanies the Hunterian induration, appears generally in the sixth week after infection."

---

*The Ophthalmic Review: a Quarterly Journal of Ophthalmic Surgery and Science.* Edited by J. ZACHARIAH LAURENCE, of London, and THOMAS WINDSOR, of Manchester No. I., April, 1864. London.

SOME idea of the plan of this Journal may be derived from the following selections from the editors' Introduction.

" \* \* \* There is no English journal, however, which displays to the surgeon a complete account of what is going on at home and abroad in this important and interesting branch of surgery. The 'Royal London Ophthalmic Hospital Reports' (which are no longer issued regularly, but only from 'time to time'), most valuable in themselves, will on reference be found to have a different scope from our Review, which is quite as much intended for the Profession at large as it is for Ophthalmic Surgeons, and which has taken for its model the well-known 'Annales d'Oculistique,' and the more recent 'Monatsblätter' of Zehender."

"One of the principal features of the Review will consist in the

reproduction of the more important contributions to ophthalmology which appear from time to time on the continent."

The number before us commences with an interesting article by Zehender, recommending the use of cataract knives with a convex cutting edge, on the ground that the last part of the corneal section is accomplished more easily with such knives. Then follows a paper by Thomas Windsor, on "Iridectomy as a Method of forming an Artificial Pupil." This is a detailed account of the operation, and of great practical importance, as the second of the following passages, interesting in itself, and for the comparative novelty of the view expressed, will exemplify: (p. 24) "By far the most serious and difficult to treat are the cases of genuine universal posterior synechia, in which the whole of the posterior surface of the iris is adherent, and the posterior chamber obliterated." (p. 26.) "Professor von Graefe has recently shown that it is advisable in these cases to first remove the lens even though transparent, for then the iris may be attacked with far greater boldness and success than in the ordinary method. He became convinced by the examination of pathological specimens, that in many cases it is quite impossible to form an artificial pupil without injury to the lens, owing to the extent of the adhesions and the fragility of the anterior capsule."

Other interesting papers are the one on Retinitis Pigmentosa, by Mooven, and a review of English ophthalmoscopic literature, in which some of the English writers are referred to in terms by no means complimentary.

Judging from this first number, we look forward with pleasure to the next, and anticipate that the Ophthalmic Review will be well worth the attention of medical men.

H.

---

*A Treatise on Human Physiology: designed for the use of Students and Practitioners of Medicine.* By JOHN C. DALTON, Jr., M.D. Third Edition, Revised and Enlarged—with 273 Illustrations. Philadelphia: Blanchard & Lea, 1864.

In calling attention to the recent publication of the third edition of this book, it will only be necessary to say that it retains all the merits and essentially the same plan of the two former editions, with which every American student of medicine is undoubtedly familiar. The distinguished author has added to the text all the important discoveries in experimental physiology and embryology which have appeared during the last three years, a large portion of which period he has given to the cause of his country as well as to the cultivation of science.

It is highly gratifying to reflect that two books so creditable to American medical literature as this and that we have above noticed, should have been written by physicians born and educated in Massachusetts.

---

DR. HENRY, in the *Cincinnati Lancet and Observer*, states that, in his hands, *fraxinus nigra*, or swamp ash, never fails to arrest the paroxysms of intermittents, and believes that it may be substituted for quinia in all simple and complicated cases.

---

 THE BOSTON MEDICAL AND SURGICAL JOURNAL.
 

---

 BOSTON: THURSDAY, JUNE 30, 1864.
 

---

**RESPONSIBILITY OF PHYSICIANS IN CASES OF A CONFIDENTIAL NATURE.**—The responsibility resting with physicians in cases involving the moral character of the patient is one which, we think, has not been felt so fully by the profession here in times past as it might have been, or as the deterioration of public morals in our large cities of late years has given occasion for. Placed at the very heart of the people's confidence, no man holds a greater power of injury to the reputation of many a man who walks the streets with a fair outside, than he whose profession has made him acquainted with the physical consequences of his delinquencies. This sacred confidence has generally been recognized as one which should be inviolate, and in some communities has even been protected by the public law itself, as a veil through which the all-searching glance of public justice might not penetrate. The perilous nature of the secrets thus hid from all the world, and the question of the duties growing out of it, have of late excited no little discussion in the medical journals, especially those on the other side of the water; and no little difficulty seems to have been found in coming to a conclusion which should save the physician on the one side from a breach of confidence, and on the other from withholding what it is of the utmost importance to the happiness of innocent persons should be known. Practically, we are not aware that heretofore such questions have assumed importance in our community; but one or two instances which have come to our knowledge of late, make it worth while for us to give them a serious consideration, for the purpose of adopting a definite rule of action.

One of the cases referred to is known to many of our readers as that of an eminent physician in this State, who has been subjected to the most unrelenting persecution, so far as the personal influence of one man can effect this, merely because he is suspected of having given an opinion unfavorable to his character, when questioned by another, who felt he had a right to know, or at least to attempt to discover, whether there was any stain upon it. Abandoning a suit in court when he found the victim of his hostility was prepared to meet him there, he has resorted to a *guerilla* warfare, so to speak, and not long since addressed a letter, setting forth grave charges against him, to a body of physicians of which he was a member, calculated to injure him greatly in their estimation. This led to an explanation on the part of the gentleman thus assailed, and an entire acquittal in the minds of those addressed, of any unprofessional or dishonorable conduct. But who can be prepared at all points against the covert attacks of such a foe? Who can unmask the falsity of private malice when it poisons in secret the reputation of a man whom it cannot injure in public?

The second instance was that of a physician, also well known to many of our readers, who not long since was called upon by two individuals calling themselves gentlemen, and asked to divulge the na-



ture of the malady for which he was treating a young man in their employ. The physician made certain statements with regard to the case which did not seem satisfactory to his visitors, and they proceeded to say that they felt they had a right to know all the facts in the case, and they had therefore examined his recipes left in the hands of the druggist who had put them up; that they were clearly of such a nature as to cast suspicion on the person for whom they were prescribed, and not such as would be likely to be used under the circumstances described by him. The meanness of such a procedure was happily met in this instance in the only way in which it should have been met, and the intruders upon a gentleman's premises were speedily shown out of the door which their own conduct had so clearly demonstrated their unfitness to enter.

Such experiences may happen to all of us, and it is therefore well to be prepared with some definite rule of action for the occasion, whenever it may arise. The position is one of no little difficulty and embarrassment. On the one hand the proper reticence of the physician, who does not choose to be challenged so peremptorily by an unauthorized person to give information which no one has a right to demand of him, will probably be construed unfavorably to the party about whom the inquiry is made, and thus an entirely innocent person may, under the maxim that "silence gives consent," be subjected to the most undeserved suspicion. On the other hand, if physicians are complaisant enough to gratify the curiosity of the inquirer in cases where there is no just ground for suspicion, and explain all the circumstances to his satisfaction, what becomes of the cases where there *is* just ground for suspicion? Surely it cannot be claimed that we are bound, under any circumstances short of legal compulsion, to reveal what may blast the prospects of our confiding patient for life, to say nothing of the loss of professional honor which such a breach of confidence implies. Neither can it be expected that a physician will positively falsify and deceive the inquirer, to cover up what he feels bound to keep secret. What are we to do in such cases?

We should have some fixed rule of action, and it would be better if such a rule could be adopted by the profession as a body, so that each member of it may refer to it in an emergency, as a guide which he is pledged to follow. Let our local Association, for instance, vote as a body, that they will not, under any circumstances, impart information, when appealed to in private, concerning *any* patient, in answer to an inquiry which implies suspicion of the moral character of such patient, and we think the end will be answered. The printed rule can be shown to the inquirer; and although an opportunity to clear the character of an innocent person may occasionally, from the very necessity of the case, be thus lost, yet we think the good resulting will, in the long run, more than counterbalance the hardship of such instances. Physicians will be prepared with a ready answer on all such occasions, and will thus escape the danger to which a want of presence of mind, or an unguarded statement, may expose them; while the perilous secrets of the community, which sad necessity opens to the unwilling confidence of members of our profession, will find only in them the kindly sympathy and advice, or the healing hand, which can do so much to alleviate the misfortunes or remove the consequences of errors, which their experience of human frailty

teaches them to look upon with a charity too often denied by the world at large.

DURING the year 1863, there were admitted into the Insane Department of the Philadelphia Almshouse, 148 men, and 210 women, 358 in all; which added to those remaining in the Hospital, January 1, 1863—viz., 192 men and 339 women—531, gives a total of 889 who were under treatment during the year, of whom 340 were men and 549 were women. The discharges during the same period were 157 men and 198 women, being a total of 355. Of these, 58 men and 90 women, 148 in all, were discharged cured; 37 men and 36 women, 73 in all, were discharged improved; 19 men and 30 women, 49 in all, were discharged unimproved; and 43 men and 42 women, 85 in all, died.

WE learn that as the result of the appeal recently made to the public in behalf of the Pleasant Street Hospital for Women, the sum of nearly twenty thousand dollars has been subscribed, so that the institution now has a capacity of some forty or fifty beds.

SINCE the commencement of General Grant's campaign, 1000 surgeons and nurses have been sent to the Army of the Potomac, of whom 194 were private physicians of the Volunteer Aid Corps, 42 Contract or Acting Assistant Surgeons, 9 Regular Surgeons, and 775 nurses.

CAMP FRY, Augusta, Me., the barracks at Albany, N. Y., and the barracks at Readville, Mass., have been turned over to the Medical Department for hospital purposes.

DR. R. E. MATHEWS, of Marlow, N. H., drawn in the current draft, and accepted, has been appointed by the Governor of the State Assistant Surgeon in the 14th N. H. Regiment.

#### VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, JUNE 25th, 1864.

##### DEATHS.

	Males.	Females.	Total.
Deaths during the week	37	48	85
Ave. mortality of corresponding weeks for ten years, 1853—1863,	35.2	34.4	69.6
Average corrected to increased population	00	00	76.62
Death of persons above 90	0	0	0

PAMPHLETS RECEIVED.—Thirteenth Annual Report of the Physician and Superintendent of the Insane Department of the Philadelphia Almshouse for the year 1863.

DEATHS IN BOSTON for the week ending Saturday noon, June 25th, 85. Males, 37—Females, 48.—Accident, 4—apoplexy, 1—congestion of the brain, 2—disease of the brain, 5— inflammation of the brain, 2—bronchitis, 2—cancer, 1—cholera infantum, 2—consumption, 12—croup, 1—cystitis, 1—debility, 2—diarrhoea 2—diphtheria, 1—dropsy, 3—dropsy of the brain, 5—drowned, 1—dysentery, 1—scarlet fever, 2—spotted fever, 1—typhoid fever, 2— disease of the heart, 1—infantile disease, 3—disease of the liver, 1—congestion of the lungs, 1— inflammation of the lungs, 4—marasmus, 2—measles, 2—melanosis, 1—old age, 2— smallpox, 3—syphilis, 1—thrush, 1—unknown, 9.

Under 5 years of age, 31—between 5 and 20 years, 10—between 20 and 40 years, 20—between 40 and 60 years, 7—above 60 years, 17. Born in the United States, 61—Ireland, 20—other places, 4.